

Flight Scientist Report
Saturday 02/19/2022 ACTIVATE RF125

Flight Type: Statistical Survey Flight

Flight Route: KLFJ CCV TURET ATLIC CROAK 3630N07300W 3500N07300W 3440N07330W
3500N07300W 3630N07300W CROAK ATLIC KLFJ

Special Notes: Second of 2 flights today. There were a host of air traffic restrictions today limiting where we could fly even in this second flight of the day. Had to make a change during flight in fact.

King Air

Pilot report (Sandeem):

Flight planned route changed substantially airborne due to airspace issues. Planned for ATLIC ZIBUT DARUX ZIBUT ATLIC at FL240 but denied entry into AR9 due to Antares rocket launch NOTAM (although rocket had already launched, NOTAM was not yet out of system). After a delay of 10-20 minutes during which the rocket NOTAM was eventually closed, Giant Killer allowed flight into AR9 through ATLIC but another NOTAM prevented flight beyond ZIBUT below 25,000 ft (prevented N524NA entry). In accordance with researchers desire, 529 coordinated the use of W-72 for the flight which required a descent to FL230, following eastern border down to the southern most point of W-72. Remainder of flight was flown at FL230 in the place of FL240. Final route flown, with holding occurring 10 nm SE of CCV @ 7000 ft: KLFJ CCV TURET ATLIC CROAK 3630N07300W 3500N07300W 3440N07330W 3500N07300W 3630N07300W CROAK ATLIC KLFJ No instrumentation or aircraft issues. No significant clouds or weather at altitude beyond 100-120 knot winds from the West at altitude. 3 dropsondes released at end point, CROAK and near ATLIC on return portion. Laser switch turned off once for traffic. Local weather at low altitude was turbulent and gusty upon recovery and aircraft crosswind limitations were a consideration during landing.

Flight scientist report (Seaman):

Takeoff: 1636 utc

Flight path:

KLFJ ATLIC CROAK 35deg00'N/73deg00'W 34deg00'N/73deg30.00'W CROAK ATLIC KLFJ

Ops Notes:

Falcon took off first. Due to wallops launch, there was a notam blocking the area that we thought would have been expired. While waiting for clearance to proceed with plan, both aircraft orbited around Cape Charles. No data were gathered by UC12 during this period due to low altitude ~7kft. Once cleared, proceeded with ascent towards ATLIC.

Inflight data downlink was working again this flight

Science notes:

Strong MBL Aerosol layer on way out to CROAK.

Some cloud on north/south leg

Thick cloud deck on leg to endpoint.

Cals and baseline performed in turnaround point.

Video of falcon in/out of cloud taken at 20:21-20:22 utc on UC12 nadir camera.

Sonde drops:

- 1) 34deg00'N/73deg30.00'W (turn around)
- 2) CROAK (on return)
- 3) At coast

Falcon

Pilot report (Slover):

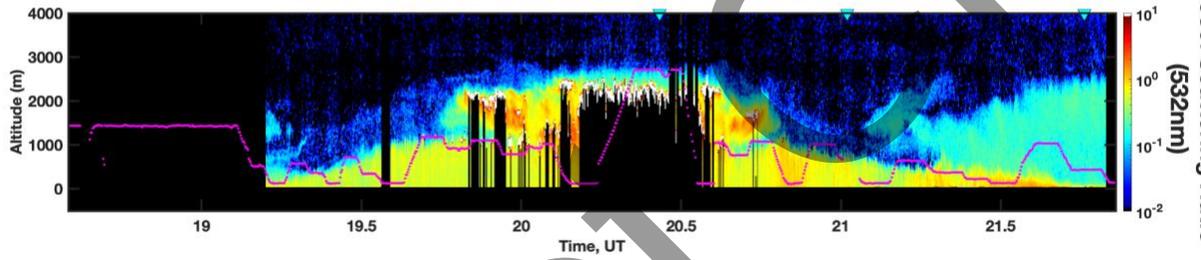
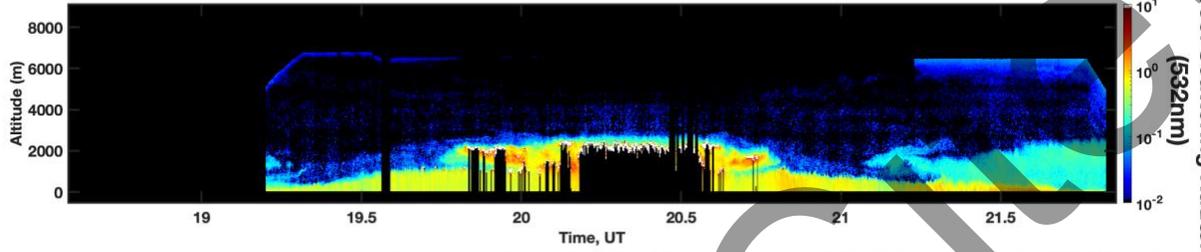
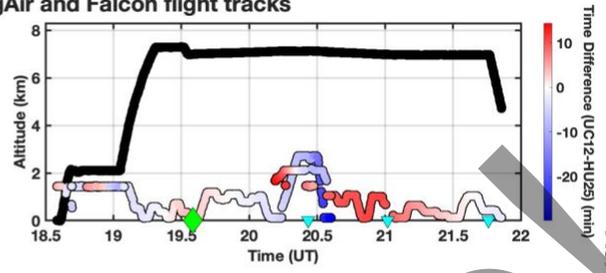
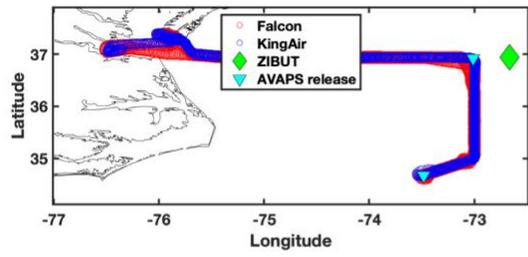
ACTIVATE statistical survey flight. Planned for ZIBUT - DARUX line, but ANTARES rocket launch (which had already occurred) hadn't released their exclusive use NOTAMS preventing the track. 20-min delay while coordinating release of the NOTAMS and ability to transit AR-9. A different ALTRV NOTAM which was not present in AM was now present preventing flight past ZIBUT.

Alternative route selected through W-72 just inside the Eastern boundary. Good weather found at the end of the track with clouds between 2000 and 9000' MSL.

Flight scientist report (Crosbie):

Stat survey ATLIC-nearZIBUT-south. Execution of this flight was disrupted because of a lingering NOTAM associated with a rocket launch out of WFF. The path outbound was temporarily closed and so we had to loiter at Cape Charles until cleared. Once established in the airway, an ALTRV east of ZIBUT prevented us from following the filed route of flight. An alternate was devised where we headed southbound using the eastern extent of W-72. At the southern end, the leg was wrapped to the WSW to accommodate the boundary of the warning area. Clear conditions were present during the east-west outbound/inbound legs with a shallow MBL (1000-2000ft). After the turn south, the MBL deepened with small Cu marking the top. The clouds remained scattered. At the southern extent of the N-S line, the clouds thickened substantially. The small section at the southern boundary of W-72 was flown twice resulting in a 4 leg wall with ACT-BCT-ACB-BCB. Conditions on the return leg were similar. On the final section of the inbound E-W leg the MBL was not observed at MINALT but a well mixed residual layer was present. There was some evidence of irregularly shaped particles seen on the 2DS that may be suggestive of dust. Winds at 2-4kft were ~40kts and ground had reported that a dry front had just passed through the area.

20220219 - ACTIVATE - KingAir and Falcon flight tracks



Aerosol Scattering Ratio (532nm)

Do Not

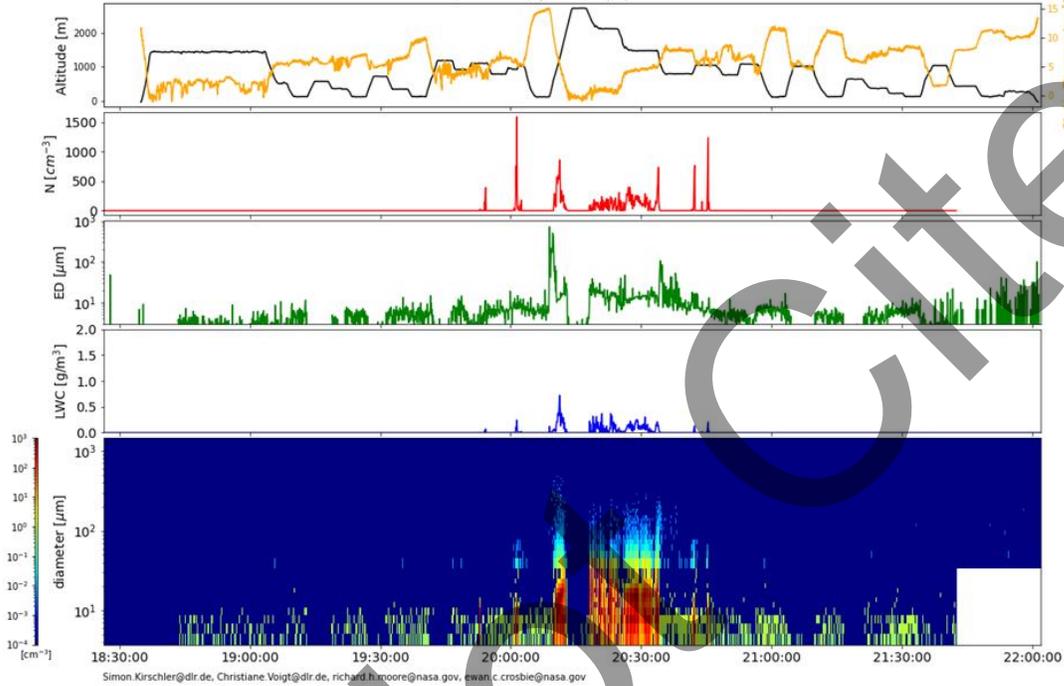
Quicklook ACTIVATE Cloud Probes (FCDP & 2DS) Quicklook

preliminary data, only for quicklook use

Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie



Cloud Probes (FCDP & 2DS) Quicklook 19/02/2022 18:26:18-22:01:58

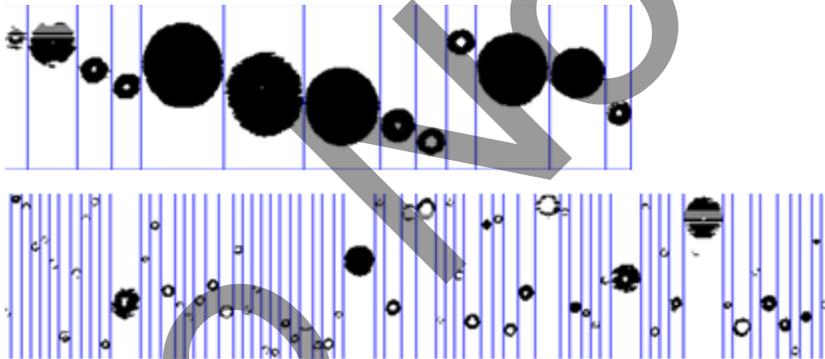
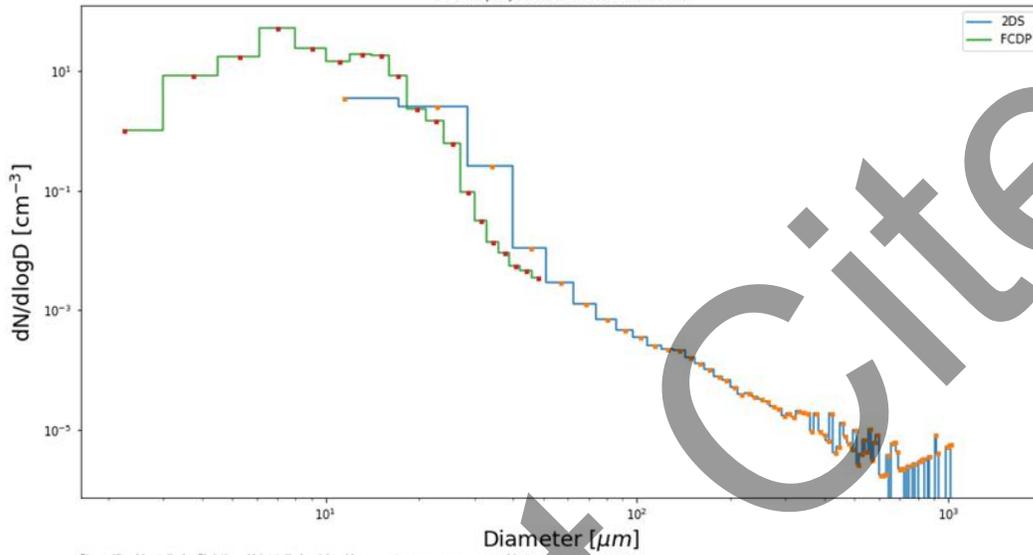


PSD ACTIVATE

preliminary data, only for quicklook use
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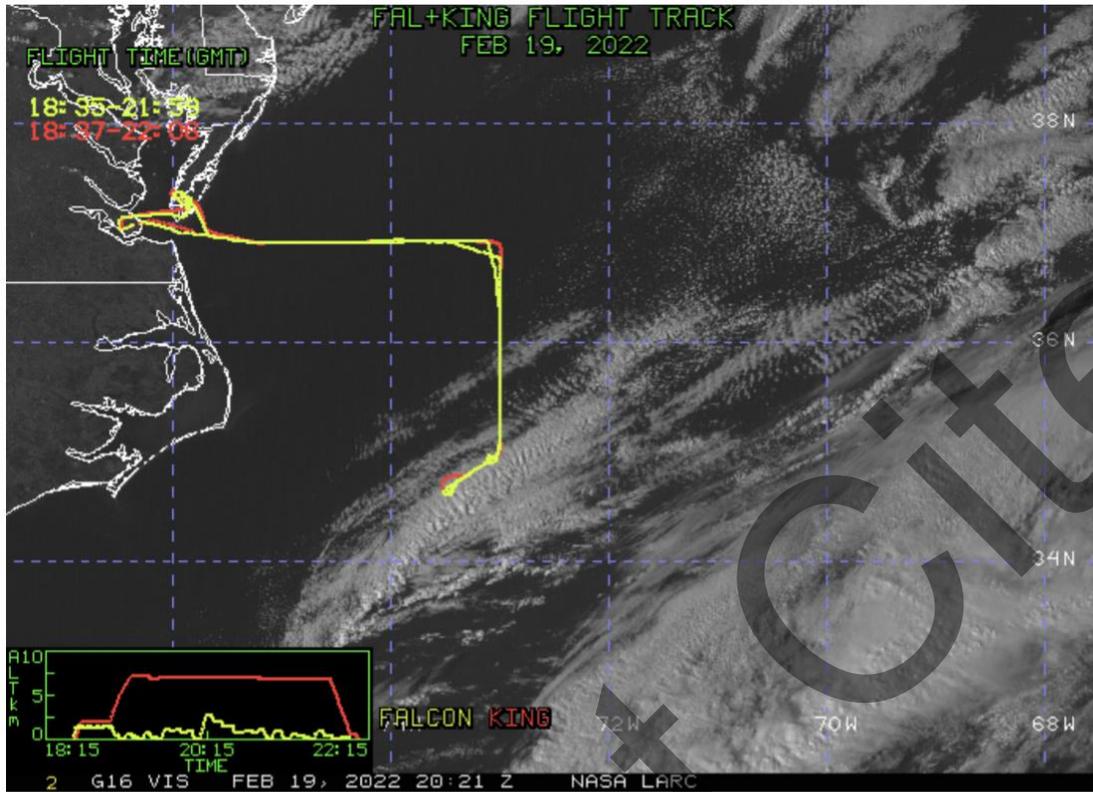


PSD 19/02/2022 18:26:18-22:01:58

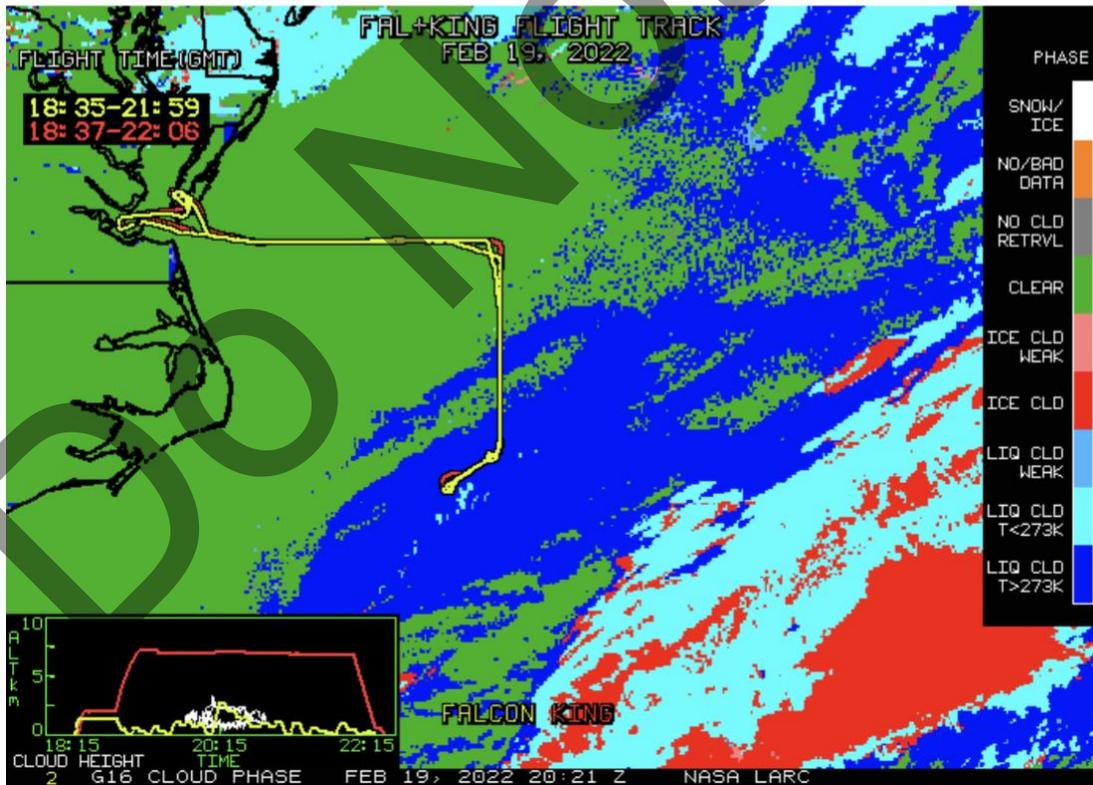


Only pure liquid clouds with Precip.

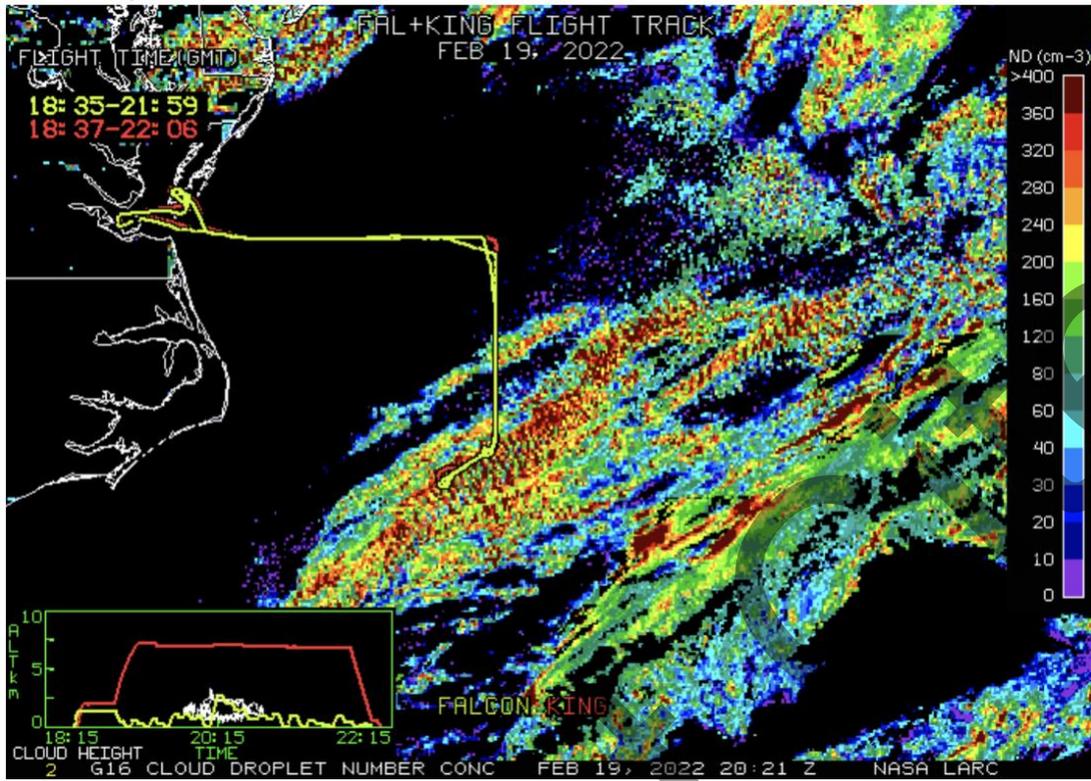
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)

